Vector Base Map FAQ

Q: What is the URL for the Vector Base Map?

A: There are actually 4 services
For Labels, Points and Lines The vector base map can be used as a standalone cached (pre-generated) map service for World Scale to 1:18,000 large scale using:
http://basemap.nationalmap.gov/arcgis/rest/services/TNM_Vector_Small/MapServer
Or, the larger scales than 1:18,000 are served with a dynamic service and can be found using :
http://basemap.nationalmap.gov/arcgis/rest/services/TNM_Vector_Large/MapServer

For polygonal fill services, The vector FILL base map can be used as a standalone cached (pre-generated) map service for World Scale to 1:288,000 large scale using:
http://basemap.nationalmap.gov/arcgis/rest/services/TNM_Vector_Fills_Small/MapServer
Or, the larger scales than 1:288,000 are served with a dynamic service and can be found using :
http://basemap.nationalmap.gov/arcgis/rest/services/TNM_Vector_Fills_Large/MapServer

Note that these urls are different than the ones used by the viewer, which uses separate services. For tips on using the service and on changes that are coming please see the Using TNM Services FAQ available at http://viewer.nationalmap.gov/help .

Q: Why is there more than one basemap service?

A: Due to the storage size required to store larger than 1:18,000 scale is more than USGS can currently store. Thus a high-performing dynamic service has been created to support those larger scale comparisons.

Q: What is the difference between the Vector Base Map and the Fills?

A: The vector base map are made up of all vector features, lines, labels, points, but do not include polygon area fills, i.e. the green national forest areas or the blue water areas. These have been split into a separate service because the fills' transparency can be controlled independently, which gives users more control when overlaying over imagery, elevation, or just the base map. Having the fills in a separate service allows users to turn off the fills altogether if desired.

Q: Why does the fills service look more opaque at some times and less at others?

A: The browser that is used affects the display of all features to some degree as well in cases the user has "zoomed" in using the browsers zoom feature. For example, Internet Explorer is known to show the fills differently, and more thickly, than other more standards-compliant browsers when the "zoom" feature is turned on or when using external TV monitors or projectors. It is expected that the

Q: Will this service work as KML or WMS?

A: Yes, visit the previously noted URLs for the Small or Large services. At the bottom of the page, there is a link to WMS capabilities and at the top of the page these is a Google Earth/KML link

For tips on using the service and on changes that are coming please see the Using TNM Services FAQ available at http://viewer.nationalmap.gov/help .

Q: What sources of data were used to create the vector base map?

A: The data layers for the small scales are National Atlas data, and the large scales are comprised of all *The National Map* themes such as the National Hydrography Dataset (NHD), the Geographic Names dataset (GNIS), and the vector features are from USGS edited versions of the 2000 Census data for Transportation, Roads, and Structures.

Q: Are all *The National Map* features viewable in the base map?

A: No, but they are using the Overlay services. if there are additional *The National Map* features that are desired to be seen, expand the overlay services pane, and expand individual base data layer services and select which additional features you may want to view at different scales.

Q: Why don't some of the features look right to me – out of date, misplaced, feature is no longer there?

A: *The National Map* program works with federal, state, local, and tribal partners for acquiring data for the program. The base map service is a result of the data acquisition and production effort. The base map accurately reflects the data holdings of *The National Map* program which for some features are not as complete or up to date as desired. All data are being edited and updated continually. *The National Map* program is working on methods for both partner provided updates as well as future user collaboration models for keeping the data as up-to-date and accurate as stakeholders require.

Q: Why doesn't this map include elevation contours?

A: The contours can be found in a separate overlay service, in the Overlays panel on the left, under Base Data Layers. Please review the FAQ – Contours on http://viewers.nationalmap.gov/help for more information on this service.

Q: How were cartographic decisions made at large scales?

A: The USGS cartographers first leveraged the cartographic decisions made for the 1:24,000 USGS Topographic Map series and its decisions for the new US Topo product using 15 landscape-diverse sample areas (i.e. varying density of feature, rural vs. urban, land cover, and territorial differences) for testing the map at each scale along the way.

Q: How were cartographic decisions made at small scales?

The cartographers compared the USGS 1:100,000 and 1:250,000 old series requirements, and for the smaller scales, they compared popular base maps already in use. The goal for the cartography was to have a WYSIWYG (what you see is what you get) when you look to download data or the US Topo product. Also, the decisions were to show features you could download and extract the data for, so there is no data at this time that cannot be downloaded.

Q: What is the vintage of the data that make up the vector base map?

A: The most recent cache date for the vector base map tiles can be found in the Help box, using the Help link in the top right corner of the page, under Release. The service is scheduled to be re-created every 30 days. Please note the overlay services will be updated every week, so there will be rare times when the basemap and overlays will not be in synchronization.

Q: What geographic areas does the vector base map cover?

A: The vector base map has tiles cached to cover the whole world, but for only oceans, continents and countries, and only at smaller scales. The larger scales have detailed data for the conterminous U.S., Alaska, Hawaii, Puerto Rico, and the Territorial Islands such as Guam and the Northern Marianas.

Q: How often will the vector base map service be updated?

A: The data for the vector base map are updated continually. The service is scheduled to be re-created every 30 days, and the latest cache date can be found using the Help link, in the Release section. Please note the overlay services will be updated every week, so there will be rare times when the basemap and overlays will not be in synchronization.

Q: What map projection does the base map service use?

A: The projection used for all base maps and overlay services is the WGS84 Web Mercator Projection so the base map cached services can be used in combination with other 2D viewer common today such as Google Maps, Microsoft Bing, etc. The large scale (below 1:18000) base map services is dynamic and can be reprojected as needed, as can all the overlay services. In the past, USGS web map services have used the WGS84 ”geographic” projection, but due the Web Mercator projection was decided on to allow users the greatest level of freedom in mixing these services with other commonly used web maps as noted that exist today.

Q: What is the difference between cached and dynamic?

A: A service that is cached has had cache tiles created, which renders the map in small images in the PNG32 format. This allows the map to perform much faster when panning and zooming, compared to a dynamic service. Dynamic is the “old” way of displaying web maps, each feature is called from the source data and drawn separately for every pan and zoom. The vector base map has been cached for small scales down through 1:18,000 for now, while the vector base map fills service is dynamic for now. It is planned on being cached by the end of the beta period. More up to date information can always be found on cache status by looking at the Help link, in the Release section.

Q: What technical parameters were used for caching the base map?

A: To be compatible with other popular 2D viewers, the vector base map was pre-generated or cached using PNG32 tiles, 256x256 pixels in size, 96 DPI, at global scales down through 1:18,056 scale. The tile cache is made up of over 13 million tiles, and takes 4-6 weeks to regenerate. Below 1:18,056 scale, the service is dynamic, not cached.